

Figure 1. The OFDM signals. (a) frequency domain representation of the OFDM sub-carriers. (b) The time domain signal with the added guard-period containing the cyclic prefix.

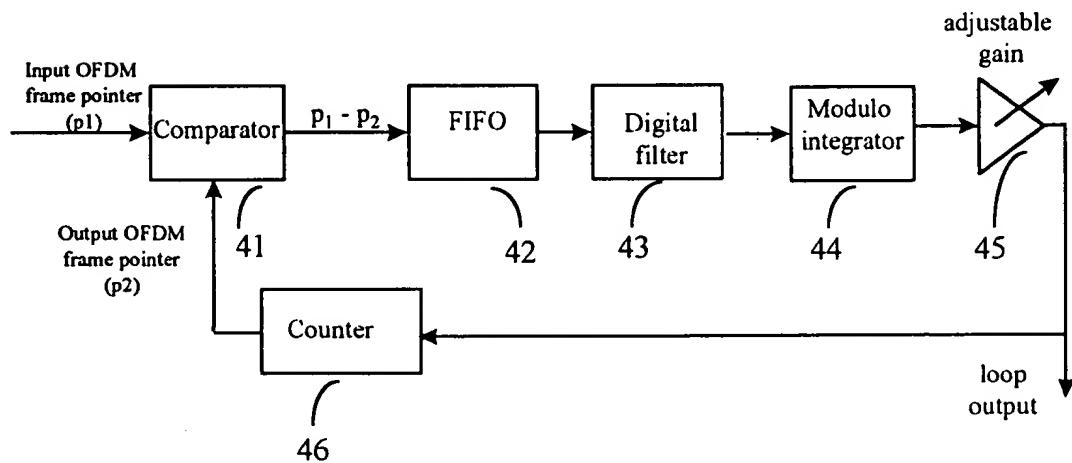
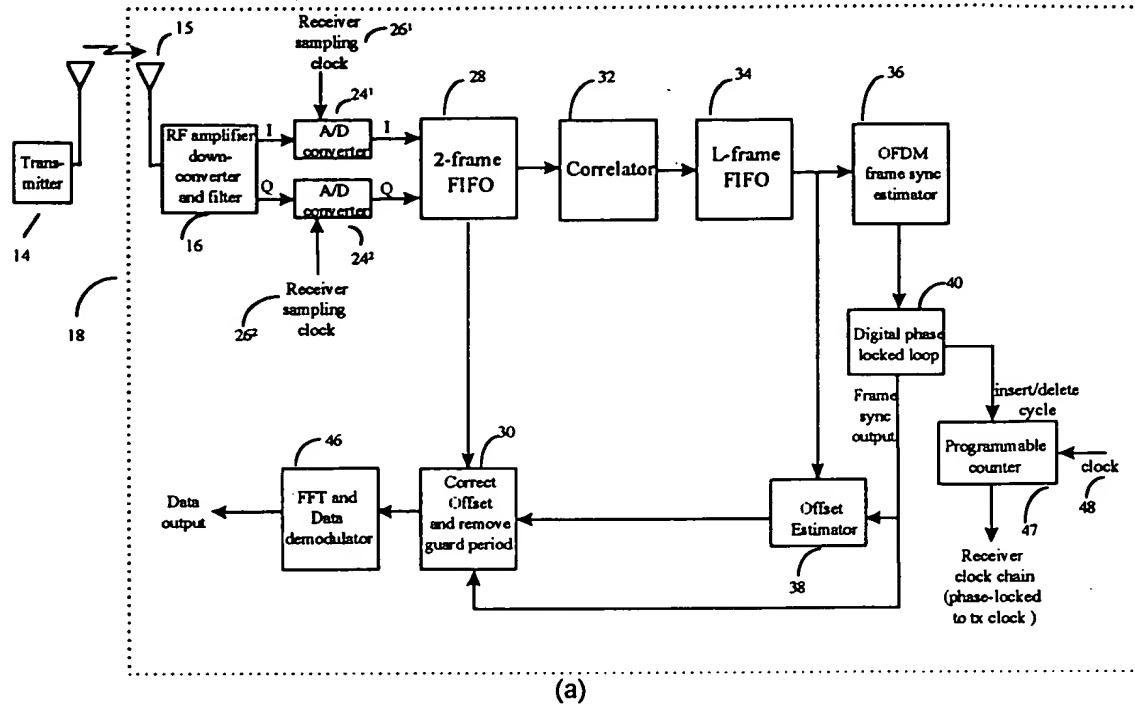


Figure 2. Offset correction procedure. (a) Functional block diagram of the algorithm. (b) Block diagram of the phase-locked loop.

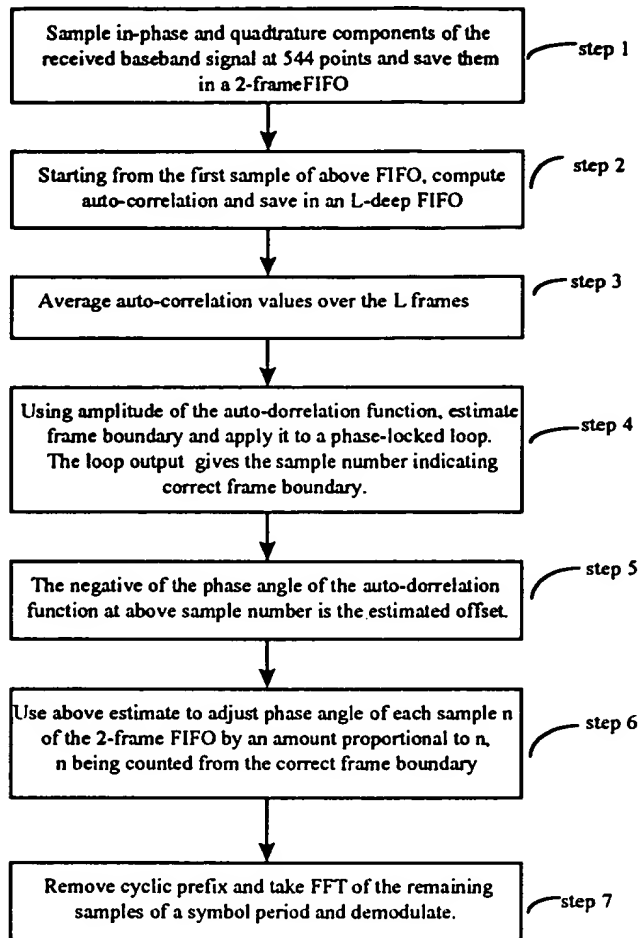


Figure 3. Summary of the algorithm.

test conditions	Noise	Offset	Fading	Offset correction	Bit Error Rate
1	No	0.30	No	No	0.1
2	No	0.5	No	No	0.35
3	10 dB SNR	No	No	-	0.000020
4	"	0.5	No	Yes	0.000020
5	"	No	Urban slow	-	0.01673
6	"	No	Urban Fast	-	0.01325
7	"	No	Rural	-	0.04763
8	"	0.30	Urban slow	No	0.15000
9	"	0.30	Urban slow	Yes	0.01500
10	"	0.30	Urban fast	Yes	0.01022
11	"	0.30	Rural	Yes	0.03727

Figure 4. BER performance under different test conditions.